AD-A124 177 TASK 3(A)R REQUIREMENTS PLANNING SESSION OUTLINE(U) 1/1
BATTELLE COLUMBUS LABS OH 12 JUL 80 F33600-80-C-0414

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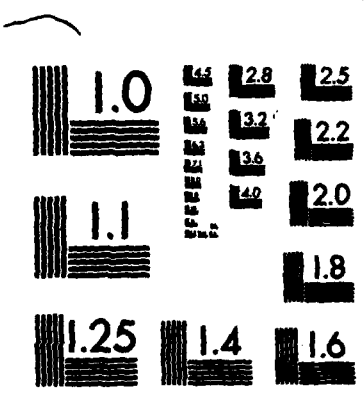

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Task 3(a)R Requirements Planning Session Outline.

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July 12, 1980

Mr. Coye Bridges
DCS/Plans and Programs
Air Force Logistics Command
Wright-Patterson AFB, Ohio 45433

Dear Coye:

Reference Contract No. F33600-80-C-0414

Enclosed is the deliverable for Task $3(a)_R$, Requirements Planning Session Outline, due 11 weeks after contract award.

In developing this outline, Battelle has formed the opinion that the requirements sessions should be heavily workshop oriented to take full advantage of the operational logistics experience of the participants. Battelle recommends that the process of informing the participants on the background of the LMS project be distributed over the entire session and that the participants be given productive work on the first day of the session following a brief overview of the program. In this way we expect to involve the participants early and create a strong positive approach for the remainder of the session.

In addition to the required deliverable, I have enclosed a paper that describes the process of moving from an LMS need to an LMS requirement. This paper is presented for your critique. We found it useful in defining the output of the requirements session and in turn organizing the sessions.

Please let me know if we need to get together to discuss this deliverable.

Sincerely,

J. Douglas Hill
Research Leader
Defense Systems & Technology Section

JDH:alm

Enc.

TASK $3(a)_R$: REQUIREMENTS SESSION OUTLINE

The following outlines activities planned for the LMS Requirements Planning Session scheduled for September 15. The outline is presented in a manner that can be readily applied to any topic area; however, it is assumed that the topic area will be Maintenance Production Management which will build on the results of one of the two topic areas from the Needs Planning Session in July. It is expected that this outline may be revised substantially based on future work and the results of the July sessions.

OUTLINE OF LOGISTICS MANAGEMENT SYSTEM REQUIREMENTS PLANNING SESSION

Requirements Session Objectives

To Be Achieved Through Presentation

- To understand and support the recommended planning approach
- To understand and support the concept of incremental renewal of LMS
- To understand the LAG concept and to accept it as the basis for LMS planning
- To understand the roles of Battelle and AFLC in LMS planning
- To understand the purpose, relevance, and results of the LMS Policy Planning and LMS Needs Planning Sessions
- To understand the LAG representation of the operation of the topic area
- To understand the meaning, purpose, format, and attributes of LMS requirements
- To understand the importance of relating the LM and LMS concepts, the LMS principles, and the LMS needs to the determination of the LMS requirements
- To understand the importance of relating the LMS requirements to the determination of the LMS design, the data system requirements planning, and the data system design

- To understand the LMS needs identified for the topic area in the LMS Needs Planning Session and their relation to the current and future requirements for management information and functions.

To Be Achieved Through Group Participation

- To validate or enhance the LAG representation of the operation of the topic area
- To identify the LMS requirements necessary to fulfill the current and future requirements of the topic area for management information and functions (in terms of the LMS needs identified in LMS Needs Planning Session)
- To document the LMS requirements at a level of detail and in a format suitable for input to the LMS design for the topic area
- To critique the group planning session in terms of methods, materials, and results.

LMS Requirements Session Agenda

Day 1

0830-0900
1) Opening remarks
1.1 Brief keynote--AFLC Vice Commander
1.2 Administrative comments

0900-0930
2) Overview of 3 1/2 day meeting
2.1 Objective
2.2 Scope
2.3 Schedule
2.4 Expected results

0930-1030
3) Summary of background
3.1 Past planning
3.2 Interim (current) planning study
3.3 Future directions and activities

1030-1200
4) Introduction to topic area and associated LAG
4.1 Rationale for LAG's
4.2 LAG framework
4.3 Presentation and discussion of topic area and associated initial LAG representation

1330-1630 5) Validation and/or enhancement of LAG representation of topic area

5.1 Explanation of objective

5.2 Presentation of group methodology to be used

5.3 Instructions for validation/enhancement of LAG

5.4 Interactive group idea generation

5.4.1 Divide participants into groups of 5-6 participants

5.4.2 Each group selects a session recorder

5.4.3 Assign logic clusters of LAG for topic area to groups

5.4.4 Each group validates/enhances logic clusters assigned to it

1630-1700 5.4.5 Reconvene and consolidate results--no discussion or critique

Day 2

0830-1000 5.5 Discussion, crossfeed, and critique of group's findings

5.5.1 Each session recorder presents and discusses informally the results of group's work

5.5.2 Each group responds to questions and/or criticisms of its work

5.5.3 Validated/enhanced logic clusters are annotated or supplemented as necessary to document questions or criticisms

1000-1200 6) Introduction to LMS requirements' development

6.1 Presentation and discussion of LMS background concepts

6.1.1 LM and LMS concepts

6.1.2 LMS development methodology

6.1.3 LMS principles

6.1.4 LMS Policy Planning Session

6.1.5 LMS Needs Planning Session

6.2 Presentation of LMS hypothetical requirements development example showing the development of an LMS requirement from an LMS need

6.3 Presentation and discussion of LMS needs as they relate to topic area

1330-1630 7) Development of LMS requirements for LMS needs

- 7.1 Explanation of objective
- 7.2 Presentation of group methodology to be used
- 7.3 Instructions for defining LMS requirements
- 7.4 Interactive group idea generation
  - 7.4.1 Use same group logic cluster alignment as in session 5.4
  - 7.4.2 Each group selects a session recorder
  - 7.4.3 Each group defines the LMS requirements resulting from the impact of the LMS needs on its logic clusters

1630-1700

- 7.5 Reconvene for crossfeed
  - 7.5.1 Each session recorder reports progress
  - 7.5.2 Open discussion and crossfeed

Day 3

0830-1200

- 7.6 Interactive group idea generation--
  - 7.6.1 Work of 7.4.3 is continued

1330-1530 8) Presentation of LMS requirements

- 8.1 Reconvene and session recorder presents and discusses the LMS requirements for each group
- 8.2 Each group responds to questions and/or criticism of its LMS requirements

1530-1700 9) Integration of LMS requirements

- 9.1 LMS requirements are aggregated
- 9.2 Duplications of LMS requirements are deleted
- 9.3 New requirements are added if needed
- 9.4 Questionable requirements are so noted
- 9.5 Assess criticality of requirements

Day 4

0830-1100 10) Documentation of LMS requirements

- 10.1 Each group documents in the prescribed format the LMS requirements for its logic cluster(s)
- 10.2 Relationship of requirement to LMS needs is shown

10.3 Relationship of requirement to LAG/logic cluster is shown

10.4 External interfaces identified

1100-1200 11) Critique of session--feedback from participants

11.1 How do actual results compare with expected results?

11.2 Will results be useful for data systems requirement planning and data system design?

11.3 Are planning methods suitable for developing policy/needs-driven requirements?

11.4 Is the LAG representation a suitable tool for understanding the topic area and defining its LMS requirements?

11.5 Are the materials suitable for the purposes of the session and do they contribute to its value?

11.6 Do the methods used ensure user primacy?

LMS HYPOTHETICAL REQUIREMENTS DEVELOPMENT

PURPOSE

This paper is intended to walk through the process of LMS requirements development as a means of clarifying the process. It is expected that an example which moves from a long-range logistics need to a specific LMS requirement will define the differences between needs, requirements, and specifications in a way that will be beneficial to participants in the requirements sessions.

APPROACH

In this paper a plausible but hypothetical need will be generated as if it had originated in the planning sessions. That need will be transformed into an LMS need in the topical area of Maintenance Production Management as it might be expected to be transformed in the needs sessions. It will then be operated on as we would expect in the requirements sessions and output as an LMS requirement. This example will serve as a test of the form of the products to be generated by the requirements sessions.

The Logistics Need

Consider the hypothetical situation where the logistics policy session determines that in the future AFLC will be expected to support multiple contingencies of relatively small size and short duration with critical political consequences. The policymakers determine that it will be necessary for AFLC to adjust outputs on short notice to support these contingencies. Due to limitations on resources, AFLC will be expected to adjust outputs for selected systems or segments of systems in order to apply the required effort to critical areas.

When considering this logistics need in the needs session devoted to Maintenance Production Management, the session reviewed the potential contingency requirements and developed a set of needs based on these contingencies. One of the contingencies considered representative was the rapid deployment of

two wings of F-4's to a country such as Pakistan for a period of 90 days. While deployed the F-4 will operate at a maximum sortie rate in a close-air support role in a dense threat environment. The needs session translates this into a depot workload need which states,

> "AFLC must have the ability to adjust depot workloads to meet the specialized support requirements of small groups of aircraft deployed for that period (90 days) in intensive operation. AFLC must be able to adjust depot output of specialized assets to meet such contingencies with minimum degradation of support to other units. AFLC must be capable of deploying specialized support teams within five days to support contingency operations."

In developing this specific need the needs session developed several other needs that when taken together will meet the policy objectives in the area of Maintenance Production Management. Only the specific need stated will be followed in this example.

The Requirement

The requirements session dedicated to Maintenance Production Management examined the LAG or LAGs associated with meeting the set of needs defined by the needs session. They applied their combined knowledge of Maintenance Production Management to defining what would be involved in satisfying the stated need. They observed that if the ability to control or adjust depot output to the level indicated by the need were to exist, several subordinate capabilities would be required. For example, they would need:

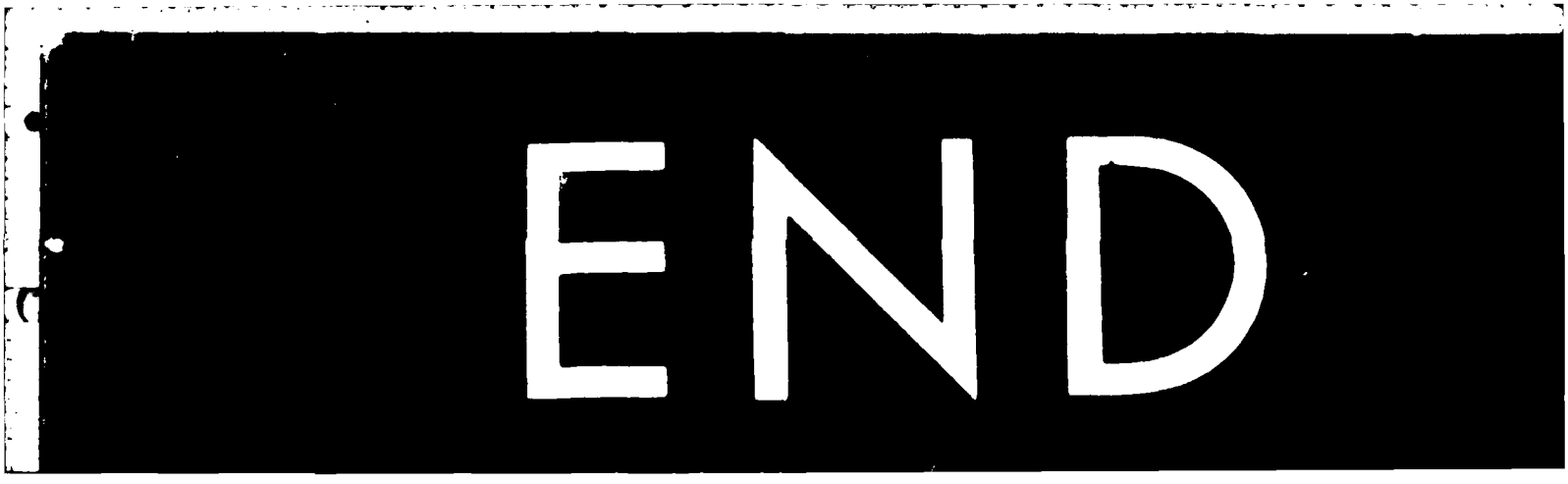
- Visibility on current asset position and a valid projection of asset position over the period of the contingency
- A means of assessing the demand rate for the deployed units for each asset. This capability must include a means of projecting demand rates for seldom-used assets such as ECM equipment.
- A means of predicting specialized support team requirements for logistics support, battle damage repair and so forth
- An effective means for assessing the impact on other units if priority is shifted to the deployed units. This capability must include the ability to adjust priority by commodity to pace the effort on limiting factors.
- A means of selectively expediting critical assets with minimum overall impact

- A means of redirecting assets from the worldwide asset pool to meet short-term requirements.

The requirements session then reviewed the existing LMS to determine the extent to which they would meet the requirement. Where shortfalls were identified the session participants defined required changes. For example, a requirement was defined to modify DO-41 to allow a weekly recomputation based on the short-term requirements of the deployed units. This computation is then used to adjust the MISTR drive for items projected to be critical and to redirect assets previously shipped to lower priority units. A system to assess the short-term impact of these adjustments on non-deployed units was laid out as a requirement. In the process of defining this requirement the session participants preserved the requirements to meet existing logistics operations and to the best of their ability listed the existing requirements in addition to the new requirement. The session defined the performance required of these system changes but did not define how the requirements would be met. This was left to the LMS design group.

For each requirement the session members called out the performance requirement in terms of what must be done. For example, in the area of controlling workload in progress they defined the following requirement:

> Objective: To provide a means of controlling workload in progress with weekly adjustments to meet contingency needs. (Note: Weekly update was selected based on the response time of the maintenance system and the desire to avoid disruptive adjustments to the production function.)
>
> Requirement: AFLC requires a system to adjust and control depot workload (organic and contract) on a weekly basis. The system must be capable of responding to a specific asset, a subsystem, a segment of a weapon system, a weapon system or multiple-weapon systems. It must be capable of assessing the need for adjustment and the impact of these adjustments on other assets in the same production function.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